$Al[PO_4]$	*hP*52	(186) $P6_3mc$ – d^4b^2

$AlPO_4$ tridymite-type ht [1]
Structural features: AlO_4 and PO_4 tetrahedra share vertices to form a 3D-framework with channels delimited by 6-rings parallel to [001] (6-fold splitting of the O sites about the P-P axes). Substitution derivative of SiO_2 tridymite.

Graetsch H.A. (2001) [1]
$AlO_{4.01}P$
a = 0.50976, c = 0.83441 nm, c/a = 1.637, V = 0.1878 nm^3, Z = 2

site	Wyck.	sym.	x	y	z	occ.	atomic environment
O1	12*d*	1	0.0028	0.4583	0.1063	0.167	
O2	12*d*	1	0.4285	0.0252	0.0643	0.167	
O3	12*d*	1	0.4837	0.052	0.0243	0.167	
O4	12*d*	1	0.5859	0.2524	0.2994	0.167	
Al5	2*b*	3*m*.	$^1/_3$	$^2/_3$	0.0		
P6	2*b*	3*m*.	$^1/_3$	$^2/_3$	0.6249		

Transformation from published data: -*x*,-*y*,-*z*; origin shift 0 0 0.4375
Experimental: powder, diffractometer, X-rays, R_p = 0.013, T = 593 K

Remarks: Phase stable at T > 573 K. Short interatomic distances for partly occupied site(s). Space group (159) *P*31*c* was tested and rejected. Refinement of an alternative model considering ideal O sites gave similar reliability factors but less realistic interatomic distances.

References: [1] Graetsch H.A. (2001), Acta Crystallogr. C 57, 665-667.